REMARKS

Status of case

Claims 1-8, 10-15, 17-23, 25-32, 34-35, 37-49, 52-74, 76-87, 91-104, 107-113, 117-135 are pending.

Rejection under 35 U.S.C. §101

Claims 27-33, 37-38, 62-80 and 119-120 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Rejection under 35 U.S.C. §112

Claim 32 rejected under 35 U.S.C. §112, second paragraph as being indefinite for the limitation "the loudspeaker" lacking antecedent basis. Applicants amend claim 32 to overcome the rejection.

Rejection under 35 U.S.C. §§102 and 103

Claims 1-5, 8-9, 15-19, 24-25, 27-30, 32-33, 37-38, 42-44, 46, 48, 50, 52-53, 60, 62-64, 66, 68, 70-72, 75, 77-78, 81-84, 86, 88, 90, 94, 96, 98-99, 101-102, 107-109, and 111-116 were rejected under 35 U.S.C. §102(e) as being anticipated over Rabinowitz et al (U.S. Publication No. 2003/0179891). Claims 11-13, 21-23, 26, 54-56, 58-59, 61, 74, 92-93, 100, and 110 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rabinowitz et al and Tagami et al., (U.S. Patent No. 5,745,586). Claims 6-7, 34-35, and 39-41 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rabinowitz et al., and Cohen et al. (U.S. Publication No. 2003/0031333 A1). Claims 10, 14, 20, 31, 45, 47, 49, 51, 57, 65, 67, 69, 73, 76, 79-80, 103-104, 85, 87, 89, 91, 95, 97, and 117-120 are rejected under 35 U.S.C. §103(a) as being unpatentable over Rabinowitz et al.

Claim 1

Applicant presents amended claim 1 which recites:

determining potential configurations of the audio system;

modifying the transfer functions based on the potential configurations so that predicted transfer functions are generated at each of at least two of the plurality of

listening positions for each of the potential configurations of the audio system, the predicted transfer functions representing simulations for the potential configurations of the audio system;

accessing a criterion by which to statistically analyze the predicted transfer functions;

statistically analyzing using the criterion across at least one frequency of the predicted transfer functions for the at least two of the plurality of listening positions; and

selecting a configuration to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis.

Applicant respectfully contends that the Rabinowitz reference fails to teach or suggest these limitations. For example, the Rabinowitz reference fails to teach or suggest "modifying the transfer functions based on the potential configurations so that predicted transfer functions are generated at each of at least two of the plurality of listening positions for each of the potential configurations of the audio system". The Office Action argues that the Rabinowitz reference teaches this limitation, citing blocks 48-59 of Figure 4 and paragraphs [0021]-[0023], [0027]. For convenience, Figure 4 (including blocs 48-59) of Rabinowitz are reproduced below:

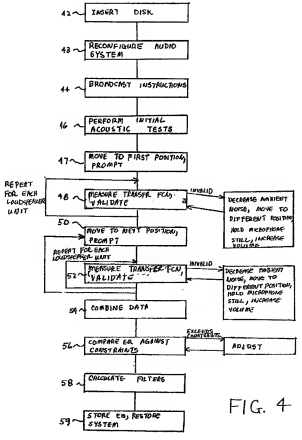


FIG. 4

The Rabinowitz reference is clear that the blocks 48 through 52 relate to **actual** transfer functions recorded – not predicted transfer functions. In particular, the Rabinowitz reference teaches the following sequence: move a microphone is moved to a first listening location (block 47); record the transfer function at the first listening location and validate the recorded transfer function (block 48); move the microphone to the next listening location (block 50); and record the transfer function at the first listening location and validate the recorded transfer function (block 52). Further, block 54 teaches that the data signals for all the positions may be combined by the acoustic measuring circuitry 19 (by some method such as energy averaging) and an equalization pattern developed from the data signals." Paragraph [0031]. Therefore, any sort of "combining" is for a hypothetical seat, and not any sort of predicted transfer functions at the actual listening positions.

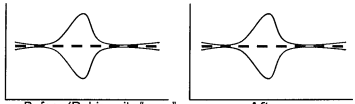
To underscore the difference with Rabinowitz, claim 1 recites "the predicted transfer functions representing simulations for the potential correction factors". Thus, any discussion in the Rabinowitz reference are solely directed to recorded (not predicted) transfer functions. And, the Rabinowitz reference wholly fails to teach or suggest predicting transfer functions at multiple listening positions.

Claim 1 further recites "accessing a criterion by which to statistically analyze the predicted transfer functions", "statistically analyzing using the criterion across at least one frequency of the predicted transfer functions for the at least two of the plurality of listening positions" and "selecting a configuration to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis". The Office Action reasons that "statistics- can be broadly interpreted as **the collection of data**". (Emphasis in original). Applicants strongly disagree. The statistical analysis requires an "analysis". Mere collection of data does not constitute any sort of analysis.

Moreover, apart from the Rabinowitz reference failing to teach or suggest generating "predicted" transfer functions at multiple listening positions, the Rabinowitz reference fails to statistically analyze for the predicted transfer functions for the at least two of the plurality of listening positions. Instead, the Rabinowitz reference only teaches analysis of a hypothetical "average" seat, as discussed above.

And, the Rabinowitz reference wholly fails to teach or even suggest improving for any criterion at multiple listening positions. Instead, the Rabinowitz reference focuses entirely on improving an imaginary "average" seat to the potential detriment of improving the response at the actual seats. The following illustration underscores this point:

Rabinowitz (1 sub, 2 seats)



Before (Rabinowitz "sees" Flat average and does nothing)

After

Current Application (4 subs, 2 seats)

Before
(Analysis "sees" 2 different seats and attempts to make them more similar)

After

As shown above, by focusing on an "imaginary" average seat, the Rabinowitz reference may not necessarily improve the response at the individual seats. In contrast, the invention as claimed focuses on selecting the configuration so that the criterion's response is improved at the plurality of seats. For example, if the criterion is variance, the correction factor is selected so that the variance from seat-to-seat is improved. Thus, unlike the cited art, the audio response at the plurality of seats may be improved. Therefore, independent claim 1 is patentable over the cited art. Further, the claims that depend on claim 1 are patentable at least by virtue of their dependence on claim 1.

Claim 15

Claim 15 recites generating predicted transfer functions as a plurality of listening positions and statistically analyzing the predicted transfer functions using a criterion. As

discussed above, the Rabinowitz reference fails to teach or suggest these limitations. Therefore, independent claim 15 is patentable over the cited art. Further, the claims that depend on claim 15 are patentable at least by virtue of their dependence on claim 15.

Claim 25

Claim 25 recites generating predicted transfer functions as a plurality of listening positions and statistically analyzing the predicted transfer functions using a criterion. Claim 25 further recites recommending at least one of the potential configurations to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations. Therefore, independent claim 25 is patentable over the cited art. Further, the claims that depend on claim 25 are patentable at least by virtue of their dependence on claim 25.

Claim 27

Claim 27 recites generating predicted transfer functions as a plurality of listening positions, statistically analyzing the predicted transfer functions using a criterion, and selecting a configuration to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations. Therefore, independent claim 27 is patentable over the cited art. Further, the claims that depend on claim 27 are patentable at least by virtue of their dependence on claim 27.

Claim 54

Claim 54 recites generating predicted transfer functions as a plurality of listening positions, statistically analyzing the predicted transfer functions using a criterion, and selecting a configuration to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis, where the statistical analysis is selected from the group consisting of mean spatial variance, mean spatial standard deviation, mean spatial envelope, and mean spatial maximum average. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations. And, the Rabinowitz reference fails to teach or suggest using the types of statistical analyses recited for the multiple listening positions. And, the Tagami reference, cited for the types of statistical analysis recited, fails to remedy this failing. Specifically, the Tagami reference does not teach or even suggest any sort of analysis across multiple listening

positions. Therefore, independent claim 54 is patentable over the cited art. Further, the claims that depend on claim 54 are patentable at least by virtue of their dependence on claim 54.

Claim 62

Claim 62 recites generating predicted transfer functions as a plurality of listening positions, statistically analyzing the predicted transfer functions using a criterion (where the statistical analysis indicates efficiency of the predicted transfer functions at the plurality of listening positions), and selecting a configuration to improve for the criterion at the at least two of the plurality of listening positions based on the statistical analysis. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations, and wholly fails to analyze efficiency at the plurality of listening positions. Therefore, independent claim 62 is patentable over the cited art. Further, the claims that depend on claim 62 are patentable at least by virtue of their dependence on claim 62.

Claim 81

Claim 81 recites generating predicted transfer functions as a plurality of listening positions and statistically analyzing the predicted transfer functions using a criterion. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations. Therefore, independent claim 81 is patentable over the cited art. Further, the claims that depend on claim 81 are patentable at least by virtue of their dependence on claim 81.

Claim 107

Claim 107 recites generating predicted transfer functions as a plurality of listening positions and statistically analyzing the predicted transfer functions using a criterion. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations. Therefore, independent claim 107 is patentable over the cited art. Further, the claims that depend on claim 107 are patentable at least by virtue of their dependence on claim 107.

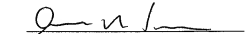
Claim 111

Claim 111 recites generating predicted transfer functions as a plurality of listening positions and statistically analyzing the predicted transfer functions using a criterion. As discussed above, the Rabinowitz reference fails to teach or suggest these limitations. Therefore, independent claim 111 is patentable over the cited art. Further, the claims that depend on claim 111 are patentable at least by virtue of their dependence on claim 111.

SUMMARY

Applicant respectfully requests the Examiner to grant early allowance of this application. The Examiner is invited to contact the undersigned attorneys for the Applicant via telephone if such communication would expedite this application.

Respectfully submitted,



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